

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 1-22 are pending in this application. Claims 1, 4 and 11 are the only independent claims.

Claims 1-8, 10-15 and 17-22 are rejected under 35 U.S.C. §103(a) based on U.S. Patent No. 6,130,757 to Yoshida et al. ("Yoshida") in view of U.S. Patent No. 6,977,734 to Shima, and further in view of U.S. Patent No. 7,259,876 to Obata et al. ("Obata"). Further, Claims 9 and 16 are rejected under 35 U.S.C. §103(a) based on Yoshida in view of Shima and Obata, and further in view of U.S. Patent No. 6,934,046 to Nishikawa et al. ("Nishikawa"). The rejections are respectfully traversed.

The data processing apparatus recited in independent Claim 1 comprises a controller and one or more compression/decompression units that compress the data for an input job and decompress the compressed data. When a processing request is issued for processing of the data for a next job by the compression/decompression unit(s) during processing of the data for a current job by the compression/decompression unit(s), the controller performs processing comprising: a) obtaining the processing wait period between individual pages of the current job, b) obtaining the minimum processing time for the next job data, c) comparing the processing wait period between individual pages of the current job with the minimum processing time for the next job data, d) determining whether or not the processing wait period is longer than the minimum processing time, based on a comparison between the minimum processing time for the next job data and the processing wait period, and e) controlling the execution of processing of data for the next job by the

compression/ decompression unit(s) in accordance with this determination.

Independent Claim 11 defines a data processing apparatus including similar features.

As discussed in paragraph [0019] of the published U.S. application (U.S. 2005/0044549 A1), if the processing wait period between pages of the current job is longer than the minimum processing time for the next-job data, at least minimal processing of the next-job data can be performed during the processing wait period for the current job, and therefore next-job processing is carried out between pages of the current job. Conversely, if the processing wait period between pages of the current job is shorter than the minimum processing time for the next-job data, processing of the current job would be delayed by the execution of processing of the next-job data during the processing wait period for the current job. Therefore next-job processing is put on hold. In addition, and as explained in paragraph [0020] of the published U.S. application, because next-job processing is conducted only so long as there is no effect on current job processing as described above, there is no reduction in productivity due to a delay in current-job processing.

The Office Action acknowledges that Yoshida fails to disclose a controller that performs a), b), c) and d), above. In an attempt to remedy this deficiency, the Office Action refers to Shima.

Shima discloses a printer than can print a plurality of pages of a print job at one time in one printing process, i.e., "n page unit printing" (see col. 1, lines 19-25 and 41-46 of Shima). According to Shima, in order to print two pages of a print job at once ("2 page unit printing" or "2 up printing"), the printer has to perform data processing for the two pages and supply the data to the print engine (see col. 1, line 64 to col. 2, line 3 of Shima). If the time it takes for the data of page 2 to reach the

print engine after the data for page 1 has reached the print engine is relatively long, there may be a case where printing can be finished earlier by printing each page sequentially ("1 up printing") rather than waiting for the page 2 data to reach the print engine in "2 up printing" (see col. 2, lines 4-9 of Shima). Accordingly, whether "2 up printing" is effective depends on the waiting time for the data of the two pages to reach the print engine. As shown in Fig. 4(a) of Shima, if the data of the two pages reaches the print engine by the maximum waiting time T , "2 up printing" is effective (see col. 2, lines 10-18 and col. 9, lines 24-36 of Shima). On the other hand, if the data of the two pages reaches the print engine *after* the maximum waiting time T , as shown in Fig. 4(b) of Shima, "2 up printing" is not effective (see col. 9, lines 14-23 of Shima). Further, "2 up printing" is effective if the time " t " it takes for the page 2 by itself to reach the print engine is shorter than the maximum waiting time T , as shown in Fig. Fig. 4(c) of Shima (see col. 9, lines 53-63 of Shima).

Based on Figs. 4(a)-4(c) of Shima, the Office Action takes the position that Shima discloses obtaining the processing wait period between individual pages of the current job as recited in independent Claims 1 and 11. Applicants respectfully disagree. As shown in Figs. 4(a) and 4(b) of the reference, Shima is concerned with the *total processing time* of the two pages, i.e., the total time of the sheets from point (1) to point (3) in Figs. 4(a) and 4(b). Shima does not calculate a processing wait period *between* individual pages (i.e., between the first " t " and the second " t " from point (1) to point (3) in Figs. 4(a) and 4(b)) of the "2 up printing" job. Further, in Fig. 4(c) Shima simply measures the time beginning at the start of the second sheet (i.e., the second " t " in Fig. 4(c)), and compares that time with the maximum waiting time T . Thus, Shima does not disclose obtaining the processing wait period *between* individual pages of the current job as defined in independent Claims 1 and 11.

Moreover, Shima compares (i) the waiting time required for the data of the two pages in "2 up printing" to reach the print engine, with (ii) the maximum waiting time T in normal sequential page printing, of the *same print job*. This is so Shima's printer can determine the most effective printing mode (i.e., "n up printing" or normal sequential page printing ("1 up printing")) for the current print job. Shima does not disclose comparing processing waiting times of a *current job* with those of *next job* as defined in independent Claims 1 and 11 here.

That is, Shima does not disclose a) obtaining a processing wait period *between* individual pages of a *current job*, b) obtaining the minimum processing time for the *next job* data, c) comparing the processing wait period between individual pages of the *current job* with a minimum processing time for a *next job* data, and d) determining whether or not the processing wait period is longer than the minimum processing time, based on a comparison between the minimum processing time for the next job data and the processing wait period between pages as recited in independent Claim 1, and similarly recited in independent Claim 11.

Further, Obata fails to cure these deficiencies of Yoshida and Shima. Thus, independent Claims 1 and 11 are patentable over the combination of Yoshida, Shima and Obata for at least the above reasons.

Independent Claim 4 recites a data processing apparatus comprising one or more compression/decompression unit(s) that compress the data for an input job and decompress the compressed data, and a controller. When a processing request is issued for processing of the data for a next job by the compression/decompression unit(s) during processing of the data for a current job by the compression/decompression unit(s), the controller performs processing comprising: a) **identifying an attribute of the next job**, b) determining whether processing of data for the next

job by the compression/decompression unit(s) within the processing wait period is possible or not, **based on the identified next job attribute**, and c) controlling the execution of processing of data for the next job by the compression/decompression unit(s) **between** individual pages of the current job in accordance with this determination.

The Office Action continues to state that Claim 4 contains substantially the same subject matter as Claim 1. However, Claim 1 and the Office Action are both silent with regard to *identifying an attribute of the next job*, and determining whether processing of data for the next job by the compression/ decompression unit(s) within the processing wait period is possible or not, *based on the identified next job attribute*. Thus, the Office Action does not provide any basis for rejecting independent Claim 4 and fails to comply with 37 C.F.R. §1.104(c)(2), which states that when a reference is complex or shows or describes inventions other than that claimed by the applicant, *the particular part relied on must be designated*.

In addition, for at least the reasons discussed above, the combination of Yoshida, Shima and Obata fails to disclose or suggest controlling the execution of processing of data for a next job by compression/decompression unit(s) **between** individual pages of the current job in accordance with this determination, as recited in independent Claim 4. Thus, independent Claim 4 is patentable over the combination of Yoshida, Shima and Obata for at least the above reasons.

Claims 2, 3, 5-10 and 12-22 are patentable over the applied references at least by virtue of their respective dependence from the patentable independent claims. Thus, a detailed discussion of the additional distinguishing features recited in these dependent claims is not set forth at this time. Withdrawal of the rejections is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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